Merger trends in innovation markets

Emerging trends in US and EU competition law

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Agenda

Introduction
Assessing the impact on innovation: tools and proxies
What do we know about the impact?
Conclusion
1. Introduction

• Two types of potential concern (Not mutually exclusive)

  1. Loss of rivalry in innovation between merging firms
  2. Reduction of ability and incentive of other firms to continue innovating
     - foreclosure concerns
     • input foreclosure: access to patents, interoperability, big data, …
     • customer foreclosure: access to customers/markets

• Traditionally, the second concern (effect on other firms) has been the more prevalent in the EU (esp. in non-horizontal mergers)
• Convergence: EU increasingly also considering the first concern

Identifying a trend

• Identifying a ‘trend’ requires looking back in time (how far?) and making a comparison with the present
• Possible past benchmarks?

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<tr>
<th>Loss of rivalry</th>
<th>Effect on other firms</th>
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<td>• Pharma cases: GSK (2000), Pfizer/Pharmacia (2003), …</td>
<td>• GE / Honeywell (2001)</td>
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<td>• Agrochemical cases: AZ / Novartis (2000), Bayer / Aventis (2002), …</td>
<td>• Tetra Laval / Sidel (2001)</td>
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<td>• …</td>
<td>• Philips / Agilent (2001)</td>
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• To compare with present approach
Recent cases: EU

- EU: high levels of recent “innovation scrutiny”, with more emphasis on loss of rivalry between merging firms

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<td>• Halliburton Co./Baker Hughes (2016)</td>
<td>• Intel / Altera (2015)</td>
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<td>• GE / Alstom (2015)</td>
<td>• Facebook / WhatsApp (2014)</td>
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<td>• Recent mobile merger cases</td>
<td>• Intel / McAfee (2011)</td>
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<td>• Deutsche Boerse / NYSE (2011)</td>
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<td>• HDD mergers (2011)</td>
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Recent cases: US

- US: effective recent challenges in
  - Halliburton Co./Baker Hughes (2016)
  - Medtronic/Covidien (2015)
  - AT&T/T-Mobile (2011)
2. Tools and proxies

- Pipeline products
- Track record
- UPP / DIP
- Patent landscape / heat map
- R&D intensity

⇒ best used in combination with other sources of information: sectoral reports, internal company documents, customer views, …

Pipeline products

- Mostly relevant for pharma/agrochemicals/medical sectors
  - Market-to-pipeline
    - Pfizer / Hospira (2015)
  - Pipeline-to-pipeline
    - Novartis / GSK Oncology (2015)

- Possible extension to ‘roadmaps’ for new product introductions (information technology, microprocessors, …)
Track record

• In some markets (e.g. large industrial projects), ability to innovate best shown by a track record

• Track record may be well illustrated by analysis of bidding data
  − Capacity to innovate may strongly correlate with extent to which firms are invited to bid, which firms often are closest contenders, etc.
  − Example: GE / Alstom (2015)

DIP - an analogue for UPP in innovation mergers?

• DIP: “Downward investment pressure”

• UPP (upward pricing pressure)
  − Proposed by Farrell/Shapiro/Willig/Werden, originally for changes in pricing incentives for differentiated consumer products. Logic extends to B2B sectors, however, and innovation.

• “Innovation diversion ratio”
  − The fraction of the gross profits lost by Firm A to Firm B when it devotes less resources to innovation
Patent landscape/heat map

- Patent landscape: provides measure of proximity (and diversion ratio?)
- Example: medical foods sector

R&D intensity

- R&D levels and intensity of the different industry players can be a relevant metric (among others)
- Example: HDD mergers (2011)
  - Seagate/Samsung (2011)
  - Western Digital/Hitachi (2011)
Assessment of efficiencies: an uphill road?

• Assessment of efficiencies in innovation markets: complex
• Multiple dimensions: product & process innovation

• Likely relevant question: are the companies complementary or not?

3. Mergers in innovation markets: what do we know?

• Economic literature on the relationship between competition and innovation (Inverted-U curve)
• Recent “ex post evaluation” studies
  - Mobile
  - Pharma
Inverted-U curve

• Empirical finding: relationship between competition and innovation may follow inverted-U shape

• Drawing together competing views
  - Arrow: competition drives innovation ("escaping the competition")
  - Schumpeter: prospect of (temporary) market power drives innovation ("creative destruction")

![Inverted-U curve graph]

Source: Aghion, Bloom, Blundell, Griffith, Howitt (2005), Competition and Innovation: An Inverted-U Relationship, QJE (Figure 1).

Recent “ex post evaluation” studies - mobile

• “Ex post evaluation” studies on mobile mergers
  - Focus mostly on price, but also on non-price dimensions
  - Investment levels → closely linked to innovation

![Map of EU MNOs]

Number of MNOs in the EU

- 4 MNOs
- 3 MNOs + capacity remedy
- 3 MNOs

Consolidation in EU mobile telecoms - a 2015 snapshot.
Source: E.CA Economics. Shows only MNOs with more than 1% subscriber market share.
Findings on investment

• CRESSE study (Genakos, Valletti & Verboven, 2015): Trade-off. Consolidation appears to lead to higher prices and higher investment per firm (but: less firms in the market)

• Frontier for GSMA (2015): consolidation more likely to have positive impact

Recent “ex post evaluation” studies – pharma

• Haucap and Stiebale (2016): mergers appear to lead to reduced patent output

• Ornaghi (2009): similar result
4. Conclusion

- Merger policy in innovation markets – a dynamic area!
- Purpose of intervention clear enough in principle, but enormous challenges
- Standard of proof

Thank you!

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